



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,020	09/13/2005	Marco Cardinale	4497-002	2045
22429 7590 11/28/2007 LOWE HAUPTMAN HAM & BERNER, LLP 1700 DIAGONAL ROAD SUITE 300 ALEXANDRIA, VA 22314				
			EXAMINER LEWIN, ALLANA	
			ART UNIT 3764	PAPER NUMBER
			MAIL DATE 11/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/522,020

Applicant(s)

CARDINALE, MARCO

Examiner

Allana Lewin

Art Unit

3764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 54 is/are allowed.
- 6) ☒ Claim(s) 27-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 27-30, 36-43, 45, 48, 50 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Moriyasu (US Pat. No. 5,857,986).

Moriyasu discloses a device comprising a pressure sensor, as broadly recited, since the device is operational and responsive to a user input that requires the user to impart a pressure on a selected input device, i.e. a mouse or joystick; a control unit provided by a computer (1), or a central processing unit, and related signal processing device (14) to which the pressure values senses are fed (column 5, lines 38-51); and a vibrational stimulator (22 and 23, or 72 and 73, or 75 and 76, or 78 and 79) for applying vibrational stimulation to the user, wherein the vibrational stimulator is activated by the control unit in response to the 'pressure sensor' sensing an applied pressure which exceeds, as broadly recited, a 'threshold pressure value', the 'threshold pressure value'

provided by the difference between a user presence or input and lack thereof, and wherein the vibrational stimulator can apply vibrational stimulation to a user via a unit, specifically a joystick, which can reciprocally move relative to a user in response to the 'pressure sensor' sensing an applied pressure which exceeds the 'threshold pressure'. As such, the vibrational stimulator is deactivated when the 'pressure sensor' ceases to sense an applied pressure which exceeds the threshold pressure value; or, in other words, when the user is not applying any pressure to one on the input devices by either pressing a button on the mouse or keyboard or moving the joystick, and therefore no pressure is sensed by any of the pointing devices, the vibrational stimulators are not activated since there is no input by the user and therefore that 'threshold pressure' is not reached. The aforementioned reciprocal movement being a combination of movements in the plane of symmetry of the user and/or orthogonal to the plane of symmetry to the user; the unit, specifically the joystick, can also remain stationary relative to the user while a different input device is used.

Moriyasu teaches a first set of 'pressure sensors' provided by the mouse or joystick that detect pressure applied through the user's hands as these input devices are used with the hands, and specifically the first set of pressure sensors detect pressure applied to a bar, comprehended by the joystick, which a user can push or pull with their hands (column 6, lines 60-65 and column 13, lines 26-28), therefore providing a corresponding number of vibration stimulators and 'pressure sensors'.

Additionally, Moriyasu teaches the control unit allowing the user to set the amplitude of vibration, and thereby providing a plurality of amplitudes, as the vibration

the user receives is dependent upon the user's actions (column 3, lines 65-67 to column 4, lines 1-2). The user's input must first go through the control unit before a message is sent to the vibrating device to produce a vibrational response. Also, the peak detecting capacitor (43) within the signal processing device stores the detected signal; this signal then drives an amplifier (48) to activate a vibrator (38). Moriyaus also teaches a display (6).

Claims 27-33, 37, 40-45, 49, 51 and 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Leivseth et al. (International Publication Number WO 02/053084).

Leivseth discloses a device for vibratory stimulation of the human body comprising a sensor (15) for sensing the presence of a load, and therefore inherently acts as a pressure sensor since the user applies a pressure due to their weight/load exerted on the device; a control unit (22) that receives signals that represent the load on the device as measured by the sensor (page 5, lines 3-8); and a vibrational stimulator (16), wherein the vibrational stimulator is activated by the control unit in response to the sensor sensing an applied load or pressure which exceeds a threshold value (page 5, lines 33-34 to page 6, lines 1-6); and wherein the vibrational stimulator can apply vibrational stimulation via a unit, specifically an unbalanced weight that is mounted on a shaft (page 4, lines 14-17), which, as broadly recited, can move reciprocally relative to the user in response to the sensor sensing an applied load or pressure which exceeds a threshold value as it is this input which activates the vibrator.

Furthermore, Leivseth teaches the vibrational stimulator being shut off via the control unit due to its dependence of the sensed load/pressure on the device (page 5, lines 8-13), and also teaches the vibrator being shut off by means of a photocell when an indication of a weight or pressure that is lower than a threshold value, specifically the user's body weight (page 5, lines 33-34 to page 6, lines 1-8).

Leivseth discloses a first set of sensors provided in the standards (17) that measure the force or pressure transmitted via the hands when the user pulls the standards or pressures against them. The standards, as best seen in Figure 1, provide bars against which the user can push or pull with their hands. Leivseth also discloses a second set of sensors for detection of pressure applied through the user's feet due to the presence of a sensor on the panel or plate (14) upon which the user stands and against which a user can push with their feet, and, absent further limitation and as broadly recited, due to the vibration imparted by the vibrator the panel/plate being reciprocally moveable. Therefore, Leivseth provides a corresponding number of vibration stimulators and sensors.

Furthermore, Leivseth teaches the control unit being constructed for variation of the frequency and amplitude, which therefore also controls the speed or magnitude of the reciprocal movement.

Regarding claim 53, Leivseth teaches the user applying an initial load or pressure that is sensed by a sensor, this initial value being recorded via the control unit and a vibrational stimulation applied to the user by a vibrational stimulator in response to the user's presence detected by the device, and therefore a user applying pressure to

the sensor, which exceeds a threshold value that is determined by the initial load or pressure value, this initial value corresponding to the user's body weight.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leivseth alone.

Leivseth, discussed in detail above, fails to specifically disclose the sensor as a strain gauge. However, the use of strain gauges to detect the presence of an applied load or pressure is notoriously known and recognized. Furthermore, strain gauges are considered to be fundamental sensing elements and would therefore have been an obvious design choice to one having ordinary skill in the art.

Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leivseth in view of Bosco (US Pat. App. Pub. No. 2003/0135140).

Leivseth, discussed in detail above, fails to specifically teach the vibrational stimulator comprising a vibration engine. Leivseth does, however, teach the vibrator, or vibrational stimulator, comprising an electric motor or can be any other suitable type known in the art (page 4, lines 14-17).

Bosco discloses a device for muscular stimulation and specifically teaches the use of two engines having eccentric masses to produce vibration of a plate, and that relays information to the central unit to set and/or control the frequency of vibration.

Therefore, based on the teachings of Bosco, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized a vibration engine in the Leivseth device in order to provide an appropriate and adequate amount of vibrational stimulation to the user. Additionally, Examiner notes that absent criticality and unexpected results of the specified vibrational stimulator, the vibrator taught by Leivseth would perform correspondingly and achieve similar results.

Regarding claim 47, Leivseth teaches parameters provided to the vibrator being manually set by the user prior to use of the device (column 6, lines 9-19).

Claims 27 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mondlock et al. (US Pat. No. 4,705,271) in view of Leivseth.

Mondlock discloses an apparatus comprising a pressure transducer, or sensor, that represents the input force exerted by a user, i.e. the pressure imparted by the user to the device, and a control unit in the form of a microprocessor (Abstract).

Mondlock fails to disclose a vibrational stimulator.

Leivseth discloses an analogous device and teaches the use of a vibrational stimulator in combination with a sensor and a control unit (Abstract), wherein the vibrational stimulator is activated by the control unit in response to the sensor sensing an applied load or pressure which exceeds a threshold value (page 5, lines 33-34 to

page 6, lines 1-6), and wherein the vibrational stimulator can apply vibrational stimulation via a unit, specifically an unbalanced weight that is mounted on a shaft (page 4, lines 14-17), which, as broadly recited, can move reciprocally relative to the user in response to the sensor sensing an applied load or pressure which exceeds a threshold value as it is this input which activates the vibrator. Leivseth teaches that vibration increases blood circulation, and this increased blood flow increases the consumption of oxygen and nutrients by muscles and improves the regeneration process, which results in improved muscular tone, elasticity and contractile capacity (page 1, lines 13-19).

Therefore, based on the teachings of Leivseth, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized a vibrational stimulator with the Mondlock device in order to drastically improve the benefits attained by the user during exercise.

Regarding claim 35, Mondlock discloses the device being used by a supine user (note Figure 2).

Allowable Subject Matter

Claim 54 is allowed.

Response to Arguments

Applicant's arguments filed September 14th, 2007 have been fully considered but they are not persuasive. Examiner notes that as broadly recited and absent further limitation, the prior art meets Applicant's claim language.

Regarding the Moriyasu reference, Examiner notes that the device is operational once the user has applied a pressure to an input device and inherently this pressure must be large enough, or exceed a threshold, in order to be sensed and relayed. Therefore, as broadly recited, Moriyasu meets claim 27. Additionally, in response to applicant's argument that the purpose and characteristics of Moriyasu are entirely different from the claimed invention, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Moriyasu provides an apparatus that imparts a vibrational stimulation to the user in response to activation by the user by means of a control unit and vibrational stimulator. Furthermore, regarding Applicants arguments the claimed invention provides "the opportunity for the user to decide when a vibrational stimulation is activated and what type of vibrational stimulation" it is unclear how much weight can be given these arguments as this language is not reflected in the claims.

Similarly, regarding the Leviseth reference, Examiner notes that as broadly recited and absent further limitation the claimed invention is taught by Leviseth. In claim

27, Applicant recites that the 'vibrational stimulator can apply a vibrational stimulation to a user via *a unit* which can reciprocally move relative to a user in response to the pressure sensor sensing an applied pressure which exceeds the threshold pressure' (emphasis added), which, as discussed in detail in the rejection above, Leviseth does. Contrary to Applicant's remarks, the claim language does not require the vibrating source to move toward or away from the user, but merely 'a unit' to do so. Additionally, it is unclear how much weight can be given Applicant's arguments regarding Leviseth being limited due to the device requiring the user's weight to be applied and cannot function when the weight or pressure is lower than the user's body weight, whereas Applicant's claimed invention allows the user to exercise when the applied force is very low, as there is nothing in the claimed language that reflects this. Applicant has merely recited a 'threshold pressure', which in the Leviseth reference is the user's body weight.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

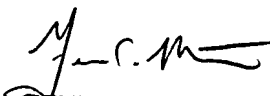
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allana Lewin whose telephone number is 571-272-5560. The examiner can normally be reached on Monday-Friday, 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LoAn Thanh can be reached on 571-272-4966. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AL


November 26th, 2007


FENN C. MATHEW
PRIMARY EXAMINER